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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission	63

Application Number	08/835,625
Filing Date	April 9, 1997
First Named Inventor	Edward M. Moll
Art Unit	2736
Examiner Name	J. Tweel, Jr.
Attorney Docket Number	M1043/20006

ENCLOSURES *(Check all that apply)*

- [✓] Fee Transmittal Form
  - [ ] Fee Attached
- [ ] Amendment/Reply
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Reply to Missing Parts/ Incomplete Application
  - [ ] Reply to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s) _____
  - [ ] Landscape Table on CD
- [ ] After Allowance Communication to TC
- [ ] Appeal Communication to Board of Appeals and Interferences
- [✓] Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- [ ] Proprietary Information
- [ ] Status Letter
- [✓] Other Enclosure(s) (please Identify below):

-Return Receipt Postcard

Remarks

Please charge Attorney Account No. 03-0075 as necessary to effect entry and/or ensure consideration of this submission.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Caesar, Rivise, Bernstein, Cohen & Pokotilow, Ltd., Customer No. 03000		
Signature	Scott M. Slomowitz		
Printed name	Scott M. Slomowitz		
Date	November 15, 2005	Reg. No.	39,032

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below: [Transmitted to Facsimile No. (571) 273-8300]

Signature	Scott M. Slomowitz		
Typed or printed name	Scott M. Slomowitz	Date	November 15, 2005

PTO/SB/17 (12-04v2)
Approved for use through 07/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL For FY 2005

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT	($)	250.00

Complete if Known	
Application Number	08/835,625
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First Named Inventor	Edward M. Moll
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Art Unit	2736
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METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☑ Deposit Account Deposit Account Number: 03-0075 Deposit Account Name: Caesar, Rivise et al.

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☑ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES Fee ($)	FILING FEES Small Entity Fee ($)	SEARCH FEES Fee ($)	SEARCH FEES Small Entity Fee ($)	EXAMINATION FEES Fee ($)	EXAMINATION FEES Small Entity Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	0
Design	200	100	100	50	130	65	0
Plant	200	100	300	150	160	80	0
Reissue	300	150	500	250	600	300	0
Provisional	200	100	0	0	0	0	0

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims		Extra Claims	Fee ($)		Fee Paid ($)
0	- 20 or HP =	0	x 0	=	0

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims		Extra Claims	Fee ($)		Fee Paid ($)
0	- 3 or HP =	0	x 0	=	0

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims Fee ($)	Fee Paid ($)
0	0

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets		Extra Sheets		Number of each additional 50 or fraction thereof		Fee ($)		Fee Paid ($)
0	- 100 =	0	/ 50 =	0	(round up to a whole number) x	0	=	0

4. OTHER FEE(S)

	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	0
Other (e.g., late filing surcharge): Filing of Appeal Brief (large entity)	$250.00

SUBMITTED BY

Signature	Scott M. Slomowitz	Registration No. (Attorney/Agent) 39,032	Telephone 215-567-2010
Name (Print/Type)	Scott M. Slomowitz		Date November 15, 2005

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant: Edward M. MOLL

Serial No: 08/835,625 Group Art Unit: 2736

Filed: April 9, 1997 Examiner: J. Tweel, Jr.

Att. Docket No.: M1043/20006 Confirmation No.: 5281

For: THOUGHT CONTROLLED SYSTEM

APPELLANT'S BRIEF PURSUANT TO 37 CFR§1.192

Mail Stop Appeal Brief-Patents
Commissioner for Patents
Board of Patent Appeals & Interferences
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This brief is being timely filed, in triplicate, under the provisions of 37 CFR §1.192. The authorization to charge the required fee for a small entity set forth in 37 CFR §1.17(c) for the filing of this brief ($250.00), or any other fee required in connection with the filing of this brief, is granted in the attached Fee Transmittal Form.

REAL PARTY IN INTEREST

Edward M. Moll is the real party in interest regarding the above-identified application.

RELATED APPEALS AND INTERFERENCES

An appeal was previously filed in this application on February 2, 2001 and for which the Board of Patent Appeals and Interferences rendered a decision (Appeal No. 2002-1635, Paper No. 31) on March 31, 2004. See Related Proceedings Appendix accompanying this brief. The appellant's legal representative in that appeal was the same as the law firm of the undersigned, namely, Customer No. 03000.

STATUS OF CLAIMS

Claims 1-2, 4, 9, 12, 15, 17-18, 21, 38, 40, 44-45, 51,55 and 67-70 are pending in this application. These claims were rejected in a Final Office Action dated June 15, 2005. Claims 3, 5-8, 10-11, 13-14, 16, 20, 22-37, 49, 41-43, 46-50, 52-54 and 56-66 were previously canceled.

Claims 1-2, 4, 9, 12, 15, 17-18, 21, 38, 40, 44-45, 51, 55 and 67-70 are being appealed, and a copy of these claims is included in the Claims Appendix accompanying this brief.

STATUS OF AMENDMENTS

No amendments have been filed subsequent to the Final Office Action dated June 15, 2005.

SUMMARY OF CLAIMED SUBJECT MATTER

The subject invention is for controlling a computer by thoughts in the brain. For example, where a user, coupled to the invention, thinks the thought of "print the document", or "copy the file", or "delete the file," etc., the invention detects the particular user stimuli that is generated by that specific thought and then operates the computer accordingly. Thus, the present invention is controlling the computer in accordance with the user thought and does *not* use biofeedback to manipulate any virtual pointer, cursor, etc. that appears in the operating system as

displayed on the computer screen. It (the thought controlled system (TCS), hereinafter "The present invention") is primarily concerned with finding the radiating properties of the brain or results thereof and selectively applying these findings to the control of computerized devices. The primary mode disclosed accomplishes its purpose by accepting Magnetic Source Imaging (MSI) findings of the human body and selectively applying these findings to the control of other devices. A.S.N. 08/835,625 (hereinafter "'625 application), p. 16, lines 2-7.

Claim 1 specifies this invention by calling for an apparatus that controls a computer based on one or more stimuli from at least one user thought wherein the apparatus comprises: (a) stimuli input means (see "Stimuli Detection and Conditioning (SDC)", 101 in Fig. 1) coupled to the user for detecting at least one stimulus being caused by the at least one thought of the user; (b) a computer having an operating system, (see "Thought Controlled Computer (TCC)", 100 in Fig. 1) coupled to the stimuli input means, for processing the at least one stimulus to produce a function control signal (see "Function Control" 307 in Fig. 3) to control the operation of the computer wherein the computer does not require an articulated response from the user (e.g., the user does not have to type in a response, or speak, etc.); and wherein the computer comprises (b)(1) function selection means ("Function Selection", 304 in Fig. 3) for receiving the at least one stimulus and wherein the function selection means comprises a memory including a correspondence between a plurality of previously-stored user stimuli and a plurality of desired control signals; and (b)(2) identification means ("Identification", 306 in Fig. 3), coupled to the function selection means, for comparing the at least one stimulus to the correspondence to identify a function control signal corresponding to the at least one stimulus, and wherein the function control signal is transmitted to the operating system of the computer.

In particular, the present invention utilizes the fact that biomagnetic potentials at particular precise locations in the brain of the user are found to be consistent with a particular *thought* of the user. For example, in accordance with Walter et al.,[1] the *thoughts* of "moving the foot", or "moving the thumb," or "moving the index finger" generate particular stimuli at precise locations in the person's brain. Thus, *the detection of particular stimuli corresponding to a particular thought* is known in the art. The present invention utilizes this relationship to then make an association of these particular stimuli of deliberate user *thoughts* with a user-desired control function which is then implemented as explained in Figs. 1-3 and pp.19-46 of the present application in order to control a computer. As an example, the '625 application states:

> ...Each stimulus or group of stimuli is identified with a unique designation so that the user can associate stimuli with his or her (related) thoughts. TCS provides for designations of the user's choice to be displayed or otherwise communicated to the user. For example, TCS may display related predetermined pictures or the brain pictorially with the location of each stimulus received. The user may choose a display of the entire brain or a part thereof. The user makes the final choice as to which designation will identify which of the stimulus, or group of stimuli, is used to evoke a particular function of the computer. This information is recorded in the stimuli profile... ('625 application, p. 30, lines 1-9).

This operation is shown in Fig. 3 and is discussed in the Specification at pages 40-41. In particular, the user desires a certain computer control (e.g., print a document) by thinking the thought, e.g., "move the index finger"[2]. The stimuli detection and conditioning 101 detects the particular stimuli in the user's brain that correspond to "moving the index finger" (which is the

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[1]Walter et al. "Individual Somatotopy of Primary Sensorimotor Cortex Revealed by Intermodal Matching of MEG, PET, and MRI" Brain Opography, 1992, Vol. 5, No. 2, p. 186, Table 1.

[2]Initially, the designations are those thoughts whose stimuli can be easily and reliably detected on repeated basis. For example, as discussed on p. 27, line 6-17 of the '625 application, user stimuli generated by the motor section of the brain (e.g.,"move index finger"), the sense of smell section of the brain (e.g.,"smell of a gardenia), movement of the eye portion of the brain, etc., all of these generate very specific stimuli that can be detected on a repeatable basis.

"designation" that corresponds to printing a document). The pre-stored stimuli[3] associated with that designation is passed from the designation 305 to the function selection 304 where that particular designation ("moving the index finger") is associated with the control function "print a document". The particular stimuli in the user's brain is compared, in the identification 306, with the pre-stored stimuli from the function selection 304. If there is a match, then the identification 306 generates the function control signal 307 "print a document" and the computer then prints a document.

Claim 2 further specifies that the stimuli input means comprises magnetic source imaging (MSI) means which is discussed throughout the Specification.[4] As stated on page 16 of the Specification,

> MSI has the ability to pinpoint spatial distribution of a magnetic field or stimulus. Used to display a visual image of the source of the location, it may assist the user in relating thought patterns to results obtained. MSI is noninvasive can utilize stimuli from internal parts of the brain remote from the surface. This is more advantageous than EEG and EKG requiring surface electrodes or methods requiring invasive procedures. ('625 application, p. 17, lines 4-8).

Thus, although not the only example of stimuli input means, MSI is the preferred type of stimuli input means because of this ability to pinpoint spatial distribution of a magnetic field or stimulus that are active when a particular thought of the user is occurring.

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[3]Initially, the present invention is trained to associate a user desired designation with a control function. For example, when the user thinks about "moving an index finger", the present invention detects the stimuli that are active when the user thinks about moving the index finger and associates that with the control function "print a document." As a result, the user can accomplish particular computer control by thinking a particular designation.

[4]'625 application: p. 4, lines 1to p. 9, line 7; p. 16, lines 4-8; p. 19, lines 9, 17, 20; p. 44, line 5; and p. 46, line 3.

Claim 4 specifies the present invention as further comprising auxiliary stimuli input means ("Auxiliary Systems 104 in Fig. 1) for supplementing the stimuli input means 101. As stated on pp. 20-21, the auxiliary systems 104 provide means for contributing alternate or additional inputs to the present invention (e.g., noise, voice recognition, illumination condition, movement of other body parts, etc.)[5].

Claim 9 specifies that the present invention may further comprise communicating means for communicating information about the user's thoughts. As stated on p. 20 of the '625 application, the auxiliary stimuli detection 105 provides custom or standard interface to make communication possible between the TCC 100 and stimuli monitoring equipment as needed to augment the stimuli input means 101.

Claim 12 specifies that the present invention may further comprise designating means (designating 305 in Fig. 3) which was described earlier regarding the association of user-detected stimuli that can be easily and repeatably detected.

Claim 15 specifies that the stimuli input means includes means for conditioning the at least one stimulus for use by the TCC 100.[6]

Claim 17 specifies that the TCC 100 further comprises a database for storing inaccuracies regarding the correspondence between the plurality of previously-stored user stimuli and the plurality of desired function control signals. As discussed in the Specification,[7] the recording 207 receives inputs of incomplete conclusions which are related to involuntary thoughts to

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[5]'625 application, p. 20, lines 15-20.

[6]'625 application, p. 23, lines 6-22 to p. 24, lines 1-2.

[7]'625 application, p. 35, lines 1-7.

improve the ability of the present invention to more accurately detect user stimuli.

Claim 18 specifies that the present invention further comprises respective databases for storing user unique stimuli for other users and wherein such unique stimuli can be used by the computer for security or identification of users. In particular, a portion of the recording 207 (Fig. 2) establishes a database for each user and identification of the user can be achieved.[8]

Claim 21 specifies stimuli selection means that select stimuli based on acceptance criteria formed by previously-stored user stimuli. In particular, the stimuli selection 204 criteria is defined in terms of signal strength and correlation factor with other entries[9].

Claim 38 specifies means for detecting coactive stimuli for increasing the dependability of the function selection means. In particular, where two stimuli sources are found to be associated and always coactive, the uniqueness of this stimuli will provide increased dependability. One example of multi-location stimuli occurring is the interpretation of sound occurring at multiple places in the brain where sound source direction and message content are determined separately[10].

Claim 40 specifies means for detecting sequential stimuli for increasing the dependability of the function selection means. In particular, two sequential thought signals, rather than one, is required in order to avoid errors[11].

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[8]'625 application, p. 39, lines 13-17.

[9]'625 application, p. 28, lines 16-17.

[10]'625 application, p. 31, lines 8-12.

[11]'625 application, p. 30, lines 18-19.

Claim 44 specifies localization means for identifying locations in the user of the source of the at least one stimulus. In particular, this means, e.g., magnetic source imaging (MSI) is discussed in detail on p. 3, line 20 to p. 7, line 5 and pp. 27-28 of the '625 application.

Claim 45 specifies an adaptive means such that the present invention localization means can adapt to a change of location of the source of the at least one stimulus whenever the user moves. In particular, where the user moves his head, the need to reliably detect the particular stimuli of the deliberate thought requires that the localization means operate without being affected by the user head movement.[12]

Claim 51 specifies bodily communication means for coupling to the user, or within the user, for providing a communication path for the at least one stimulus between the user's brain and a body part of the user that is being controlled. In particular, the bodily communication means forms a "gap-bridger" between the user's brain and the body part (e.g., arm or leg muscle) that may be paralyzed[13].

Claim 55 is directed to the present invention that includes: (1) a detecting means for detecting one or more stimuli sensed from one or more thoughts of the user (see "Stimuli Detection and Conditioning (SDC)", 101 in Fig. 1); (2) selecting means (see "Function Selection", 304 in Fig. 3) for receiving one or more of the detected stimuli and then selecting a correspondence to one or more user stimuli to a selected function and which does not require an articulated response from the user (e.g., the user does not have to type in a response, or speak, etc.); (3) identification means (see "Identification", 306, in Fig. 3) for identifying one or more of

[12] '625 application, p. 24, lines 3-18.

[13] '625 application, p. 41, line 16 to p. 42, line 16.

the detected stimuli as corresponding to the selected function for producing a function control signal; and (4) receiving means ("Computer Operation", 301, in Fig. 3) for receiving the function control signal to control the computer.

Claim 67 is directed to the present in the present invention that includes: (1) stimuli input means ("Stimuli Detection and Conditioning (SDC)" 101 in Fig. 1) for detecting at least one stimulus caused by at least one thought *pattern*[14] of the user; (2) a computer ("Thought Controlled Computer (TCC)", 100 in Fig. 1), coupled to the stimuli input means, including an operating system ("Computer Operation", 201 in Fig. 2) that processes the at least one stimulus to produce a function control signal ("Function Control Signal" 307 in Fig. 3) to control the computer and wherein the computer does not require an articulated response from the user (e.g., the user does not have to type in a response, or speak, etc.) and wherein the computer further comprises: (a) function selection means ("Function Selection" 304, in Fig. 3) for receiving the at least one stimulus and wherein the function selection means comprises a memory that includes a correspondence between a plurality of previously-stored user stimuli and a plurality of desired function control signals; (b) identification means ("Identification" 306 in Fig. 3), coupled to the function selection means, for comparing the at least one stimulus to the correspondence to identify a function control signal corresponding to the at least one stimulus and wherein the function control signal is transmitted to the operating system of the computer.

Claim 68 is directed to the present invention that includes: (1) detecting means ("Stimuli Detection and Conditioning (SDC)" 101 in Fig. 1) for detecting one or more stimuli caused by *one or more thought patterns in the user's body*; (2) a selecting means (see "Function Selection",

[14] '625 application, p. 19, line 11.

304 in Fig. 3) for receiving one or more of the detected stimuli and then selecting a correspondence to one or more user *thought patterns* to a selected function and which does not require an articulated response from the user (e.g., the user does not have to type in a response, or speak, etc.); (3) identification means (see "Identification", 306, in Fig. 3) for identifying one or more of the detected stimuli as corresponding to the selected function for producing a function control signal; and (4) receiving means ("Computer Operation", 301, in Fig. 3) for receiving the function control signal to control the computer.

Claim 69 is directed to the present invention that includes: (1) stimuli input means ("Stimuli Detection and Conditioning (SDC)" 101 in Fig. 1) for detecting one or more stimuli caused by at least one user thought *category*[15]; (2) a computer ("Thought Controlled Computer (TCC)", 100 in Fig. 1), coupled to the stimuli input means, including an operating system ("Computer Operation", 201 in Fig. 2) that processes the at least one stimulus to produce a function control signal ("Function Control Signal" 307 in Fig. 3) to control the computer and wherein the computer does not require an articulated response from the user (e.g., the user does not have to type in a response, or speak, etc.) and wherein the computer further comprises: (a) function selection means ("Function Selection" 304, in Fig. 3) for receiving the at least one stimulus and wherein the function selection means comprises a memory that includes a correspondence between a plurality of previously-stored user stimuli and a plurality of desired function control signals; (b) identification means ("Identification" 306 in Fig. 3), coupled to the function selection means, for comparing the at least one stimulus to the correspondence to identify a function control signal corresponding to the at least one stimulus and wherein the

[15] '625 application, p. 27, line 8.

function control signal is transmitted to the operating system of the computer.

Claim 70 is directed to the present invention that includes: (1) detecting means ("Stimuli Detection and Conditioning (SDC)" 101 in Fig. 1) for detecting one or more stimuli caused by *one or more thought categories in the user's body*; (2) a selecting means (see "Function Selection", 304 in Fig. 3) for receiving one or more of the detected stimuli and then selecting a correspondence to one or more user *thought categories* to a selected function and which does not require an articulated response from the user (e.g., the user does not have to type in a response, or speak, etc.); (3) identification means (see "Identification", 306, in Fig. 3) for identifying one or more of the detected stimuli as corresponding to the selected function for producing a function control signal; and (4) receiving means ("Computer Operation", 301, in Fig. 3) for receiving the function control signal to control the computer.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether Claims 1, 4, 9, 12, 15, 17, 21, 38, 40, 51, 55 and 67-70 are unpatentable under 35 U.S.C. §103(a) based on U.S. Patent No. 5,474,082 (Junker, hereinafter "Junker") in view of the publication "The Other 90% Technologies Inc. Breaks Through the Thought Barrier with MindDrive," by Mark Smotroff (hereinafter "Smotroff").

2. Whether Claim 2 is unpatentable under 35 U.S.C. §103(a) over Junker in view of Smotroff and further in view of U.S. Patent No. 5,594,849 (Kuc et al., hereinafter "Kuc").

3. Whether Claim 18 is unpatentable under 35 U.S.C. §103(a) over Junker in view of Smotroff and further in view of U.S. Patent No. 4,949,726 (Hartzell et al., hereinafter "Hartzell").

4. Whether Claims 44-45 are unpatentable under 35 U.S.C. §103(a) over Junker in view of Smotroff and further in view of U.S. Patent No. 5,325,133 (Adachi, hereinafter "Adachi")

GROUPING OF CLAIMS

Claims 1, 55 and 67-70 do not stand or fall together because they are separately patentable for the reasons set forth in the "Argument" section below. However, Claims 67-70 do stand or fall together.

Claims 1, 4, 9, 12, 15, 17, 21, 38, 40, 51 do stand and fall together. Claims 44-45 do stand and fall together.

ARGUMENT

Claim 1 is separately patentable from Claim 55 and from Claims 67-70 because the invention claimed therein is directed to an apparatus that detects one or more stimuli caused by at least one thought of the user and from that, in combination with a function selection means and identification means of a computer, controls the computer operation. Claim 55 is directed to a different apparatus that detects one or more stimuli caused by thoughts in the user's body and from that, in combination with a selecting means, identification means and receiving means of a computer, controls the computer operation. Claims 67-70 are directed to a different apparatus that detects at least one stimulus caused by the thought pattern of a user, or thought category of the user, and from that, in combination with a function selection means and identification means, or in combination with a selecting means, identification means and receiving means, of a computer, controls the computer operation.

I (a). THE EXAMINER ERRED IN CONCLUDING THAT JUNKER SHOWS ALL THE ELEMENTS OF CLAIMS 1, 4, 9, 12, 15, 17, 21, 38, 40, 51, 55 and 67-70 EXCEPT FOR THE IDENTIFICATION MEANS

In the Final Office Action dated June 15, 2005, the Examiner finally rejected Claims 1, 4, 9, 12, 15, 17, 21, 38, 40, 51, 55 and 67-70 under 35 U.S.C. §103(a) asserting that Junker provides all the elements of Claim 1 except for the identification means. To make up for that deficiency, the Examiner cites Smotroff. With particular regard to Junker, the Examiner states that:

> For claim 1, the apparatus for controlling a computer operation based on at least one stimulus sensed from a user taught by **Junker** includes the following claimed subject matter, as noted, 1) the claimed stimuli input means is met by the electrodes (No. 22) coupled to the user (No. 10) for detecting at least one stimulus being caused by the thought of the user, 2) the claimed computer having an operating system is met by the control system (No. 29) having an operating system (No. 31) for processing said at least one stimulus to produce a function control signal to control the operation of the operating system without requiring the user to manipulate the user controls, 3) ***the claimed function selection means comprising a memory is met by the data store (No. 19) in which multiple brain-body signals are stored with each sample from the user.*** However, as for the identification means there is no evidence that the stimuli are compared to stored stimuli to identify a corresponding control function for a computer. Junker does store previous stimuli in connection with control functions and upon sensing stimuli uses this stored data to perform the control. The specific comparison is not set forth in Junker. (Emphasis added, Final Office Action dated June 15, 2005, pp. 2-3).

However, Junker does ***not*** disclose the function selection means and the Board of Patent Appeals and Interferences concurred with that determination in Appeal No. 2002-1635 when the Board stated:

> ...Appellant argues at page 17 et seq. of the brief that **the function selection means and** the identification means **are not taught or suggested by Junker**. We agree with appellant, and do not find that the examiner has shown where or how Junker teaches **these claim limitations**...(Emphasis added, pp. 5-6 of Decision on Appeal dated March 31, 2004).

When the Board's concurrence was brought to the Examiner's attention, his only response was the following:

> Even if the Applicant's assumption were correct, the current rejection is based on a combination of references that the Board of Appeals and Interferences has decidedly not concurred or even reviewed. (Final Office Action dated June 15, 2005, p. 14).

It should be remembered that the Examiner is asserting Smotroff only for the teaching of an identification means that is missing from Junker; however, the Examiner **is still relying on Junker** as teaching **a function selection means** in contravention of the Board's determination. By failing to teach or suggest the function selection means, Junker in combination with Smotroff still does **not** present a prima facie case of obviousness. As a result, Claims 1, 4, 9, 12, 15, 17, 21, 38, 40, 51, 55 and 67-70 are patentable over the art of record and the §103(a) rejection should be withdrawn.

I(b). THE EXAMINER ERRED IN ASSERTING THAT SMOTROFF TEACHES OR SUGGESTS THE IDENTIFICATION MEANS SPECIFIED IN THE PRESENT INVENTION

The Examiner asserts that Junker teaches all the elements of Claims 1, 4, 9, 12, 15, 17, 21, 38, 40, 51, 55 and 67-70 except for the identification means. To make up for that deficiency, the Examiner cites Smotroff as disclosing the identification means[16] and asserts that it would be obvious to one skilled in the art to combine Smotroff with Junker to arrive at the invention specified in Claims 1, 4, 9, 12, 15, 17, 21, 38, 40, 51, 55 and 67-70. In particular, the Examiner states that:

> The "mind-control" software described in the Smotroff reference is a software program that enables a user to control a computer program using a figure-mounted sensor that monitors heart, temperature, blood-pressure volume, and electrical activity in the brain and transmits that information to an interface that plugs into a PC-compatible computer, which analyzes the data it receives and translates it into computer signals. The MindDrive software recognizes the distinctive signals produced by different mental activity. This is plain evidence that signals have been recognized by computer software

[16]Pp. 16-24 of Appellant's Brief, filed February 2, 2001.

> and translated into information that the computer can recognize. Logically, the computer for later reference stores these stimuli patterns and the control functions are enacted based on the previously observed stimulus.
>
> The system taught by Smotroff introduces a type of link between brain activity and computer control. This type of control is similar to the primary reference in that Junker also uses the sensing of brain activity to control a computer. The Smotroff reference compares brain stimuli to stored stimuli and performs the corresponding function. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate storing the data as computer functions similar to MindDrive for the purpose of utilizing a standard operating system that easily recognizes different input for different computer control. (Emphasis added, Final Office Action dated June 15, 2005, p. 3).

Smotroff (see the Evidence Appendix accompanying this brief) is simply a one page product announcement for unveiling and promoting the MindDrive computer game, i.e., MindSkier. It should be known that Applicant previously made the MindDrive computer game of record in the original Information Disclosure Statement filed on June 19, 1997 ("Mind Reading-Fact or Fiction"), along with U.S. Patent No. 5,016,213 (Dilts, et al., which is cited on the MindDrive literature and a copy of which is attached in the Evidence Appendix accompanying this brief), and which the Examiner did consider on November 18, 1997[17]. Moreover, **Applicant distinguished the present invention from both the MindDrive computer game and U.S. Patent No. 5,016,213 (Dilts, et al.) in the Background of the Invention of the present application**[18]. Thus, not only does Smotroff **not** provide any scientific

[17]Office Action, dated December 2, 1997.

[18]Another reference that is related to controlling a computer based on user physiology is U.S. Patent No. 5,016,213 (Dilts et al.) which discloses a method and apparatus for controlling the position of an image on the screen of a computer using galvanic skin response (GSR), also known as Psycho galvanic reflex (PGR) or electrodermal reflex (EDR). In particular, the system teaches the introduction of a GSR amplifier circuit that couples to the game paddle port of a conventional computer, e.g., an Apple II computer. The GSR amplifier circuit is contained within a housing having GSR contacts that are located on the exterior of the housing for the user. When the user applies a finger to the GSR contacts, the GSR amplifier circuit utilizes the skin resistance available at the GSR contacts to create an electrical signal that changes in sense and amplitude directly with changes in the resistance sensed between the GSR electrodes. Furthermore, there is a product sold under the mark MINDRIVE™,

basis or any operational theory to make up for any deficiency in Junker regarding an identification means[19], as suggested by the Examiner, **but detailed literature that is directed to the MindDrive computer game, namely, U.S. Patent No. 5,016,213 (Dilts, et al.) has already been distinguished from the present invention**. Thus, it follows that if a more detailed description of the MindDrive computer game, i.e., U.S. Patent No. 5,016,213 (Dilts, et al.), can be distinguished from the present invention, then certainly a one page product announcement, Smotroff, that lacks such detail, by definition, is also distinguished from the present invention.

The Examiner's response to Applicant's arguments are the following:

> Just because the Applicant cited the Smotroff reference in an earlier Information Disclosure Statement and the Background cites the Dilts patent does not make it any less of a relevant reference, especially when properly combined with the prior art above...(Final Office Action dated June 15, 2005, p.14);
>
> The Examiner has not relied on the Dilts reference for any of the rejections above. Still, the Junker reference plainly recites storing digital brain-body signals in a memory store (No. 19). (Final Office Action dated June 15, 2005, p. 15).

The only reason that Applicant has raised the Dilts patent, as explained above, is that Smotroff is simply a promotional business wire article directed to the MindDrive computer game which is defined by the Dilts patent. Thus, one skilled in the art would obtain an understanding of how the MindDrive computer game operates from the Dilts patent, not from a business wire article. In order to rebut the technical assertions of the Examiner which are not described in any technical detail in Smotroff, Applicant counters Smotroff using the Dilts patent. Applicant's

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by The Other 90% Technologies, Inc.™ of San Rafael, CA 94912-2669 which is believed to include a number of the features disclosed in U.S. Patent No. 5,016,213 that is available for use with home computers. Among other things, MINDRIVE™ permits the user to operate a ski simulator, create art, a flight simulator, etc., on the computer using the GSR method. Conversely, TCS teaches the selection and utilization of one individual stimulus or more stimuli and considers the actual thoughts of the user. Present application, page 12, line 15 to page 13, line 10.

[19]Nor for any function selection means either.

reminder to the Examiner that the patent application as originally filed already dealt with the MindDrive computer game and the Dilts patent in the Background section and that the technical discussion described therein would already distinguish the combination of Junker and Smotroff.

However, for completeness, Applicant addressed the deficiencies of the Smotroff, as well as U.S. Patent No. 5,016,213 (Dilts, et al., hereinafter "Dilts"), and in view of Junker, as follows.

Smotroff often uses the word "thought" and paints a picture to entice potential customers to perceive MindDrive as having the capability to detect particular thoughts for any type of control. But under further examination of Smotroff, MindDrive is a loop-structured system. In particular, Dilts, as cited on the MindDrive literature which is mentioned by Smotroff, discloses a device that continuously monitors electrodermal responses and continuously extracts the time rate of change of these responses using an analog network and amplifier without regard to, or knowing, the cursor's position. This skin-sensed time rate of change varies a resistance value for simulating a mouse in order to play a computer game. Dilts then transmits **the time rate of change information**, by simulating a computer mouse, to a computer. The game accordingly displays the effect of the user's electrodermal time rate of change in terms of moving an object on the computer screen. The MindDrive software within the PC-compatible computer is a "game-type" or a "mouse-type" software well-known in the art. This software is the recipient **only** of simulated mouse inputs which were derived from the time rate of change of electrodermal responses from the user. Viewing the object, the individual experiments with his/her eyesight, body movement and concentration to cause the object to move as desired. This interaction or feedback is commonly known as a loop-structured system.

Dilts has no capability nor suggestion to pre-store biological states or even pre-store electrodermal stimuli or even relate to specific electrodermal states in order to identify specific thoughts.

> ...applicant's apparatus is designed to continuously adjust the signal representative of the electrodermal response...(Dilts, col. 6, lines 31-33).

Further, there is no mention by Dilts of a computer storing earlier electrodermal stimuli. Dilts presents the details of the GSR (galvanic skin response) amplifier 26 which performs the detection of time rate of change emanating from an iterative loop structure of electrodermal responses for a cursor to be readjusted. Dilts has no interest in psychological states. In particular,

> ...According to applicants' invention, the particular general or overall psychological state of the human individual using the apparatus is totally unimportant. (Dilts, col. 6, lines 59-64).

Dilts also has no means to store user stimuli nor a plurality of desired function control signals. This is to ensure his independence of any time delay; in fact, the time rate of readjustment action of the average time rate of change of electrodermal responses.

> ...the RC network 34 has a time constant slightly less than one-half second. Such time constant approaches the average reaction time...to visual stimuli... (Dilts, col. 11, lines 11-14).

Thus, because there is no storage of any plurality of previously-stored user stimuli and a plurality of desired function control signals, there is no function selection means taught or suggested by Smotroff nor by Dilts. Nor is there any identification means coupled to a function selection means that compares at least one stimulus to the correspondence to identify a function control

signal corresponding to the at least one stimulus taught or suggested by Smotroff or Dilts. As mentioned previously, Dilts continually performs electrodermal response sensing and extracting of the time rate of change to control a resistance value which interfaces with a computer to move a cursor. Dilts, and therefore Smotroff, does not store nor compare to a predetermined thought. Thus, there is no evidence to logically conclude that Smotroff or Dilts stores stimuli patterns for later control of functions based on the computer's previously stored stimulus. Dilts analog amplifier network operates constantly on a loop structured basis with electrodermal sensing feedback from the user attempting to readjust the cursor position as he/she desires. The only computer program used is the game software that processes the "mouse-type" game paddle variable resistance to fulfill the game requirements.

The Examiner's characterization of MindDrive operation is not even supported by Smotroff. In particular, the Examiner states:

> The "mind-control" software described in the Smotroff reference is a software program that enables a user to control a computer program using a figure-mounted sensor ***that monitors heart, temperature, blood-pressure volume, and electrical activity in the brain*** and transmits that information to an interface that plugs into a PC-compatible computer, which analyzes the data it receives and translates it into computer signals. The MindDrive software recognizes distinctive signals produced by different mental activity. (Emphasis added, Office Action, p. 3, lines 16-22).

Nowhere in Smotroff does it teach that the finger sensor monitors these parameters[20]. And further, as stated previously, Dilts even admits that it is not clear as to what are the causes of electrodermal resistance change:

> [Regarding] measuring and recording electrodermal response accompanying emotional and ... response accompanying psychologically induced stress ... although much is known about *electrodermal response*, much ***information is still lacking*** as to the variables

[20]Dilts only mentions body temperature, respiration rate and heart beat in the Background of the Invention (Dilts, col. 1, lines 20-21) and also mentions that if a higher gain is used in the invention that the heart beat can also be detected (Dilts, col. 12, lines 64-66).

> affecting such response. (emphasis added, Dilts, col. 3, line 67 to col. 4, line 7)

and

> ...both plants and animals have been found to have *autonomic* systems controlling their electrodermal response for purposes which are ***not fully understood.*** (emphasis added, Dilts, col. 1, lines 22-25).

Thus, the Examiner's assertion that the MindDrive software "recognizes the distinctive signals produced by different mental activity and that the computer stores "stimuli patterns" (where is that even mentioned in Smotroff?) and that "the control functions are enacted based on the previously observed stimulus" are not taught anywhere in Smotroff. There is no teaching about comparing brain stimuli to stored stimuli anywhere in Smotroff nor in Dilts. Thus, Applicant submits that Smotroff or Dilts provides for no such teaching suggested by the Examiner and therefore does not make up for any deficiencies in Junker to obviate the invention of the present application.

The Examiner's response to all of the above was only directed to particular portions of the arguments (which the Examiner numerated) as follows:

> (Applicant Argument 3): *Smotroff often uses the word "thought" and paints a picture to entice potential customers to perceive MindDrive as having the capability to detect particular thoughts for any type of control. But under further examination of Smotroff, MindDrive is a loop-structured system.*

The Examiner responded:

> The Examiner is actually quite amused by this particular statement by the Applicant, as the Applicant's disclosure and numerous remarks since say exactly the same thing; particularly in regards to detecting particular thoughts for any type of control. (Final Office Action dated June 15, 2005, p. 14);

> (Applicant Argument 5): *Dilts also has no means to store user stimuli nor a plurality of desired function control signals. This is to ensure his independence of any time delay; in fact, the time rate of readjustment action of the average time rate of change of electrodermal responses.*

The Examiner responded:

> As the independent claims do not mention time delay or time rate of change, the rejections above are considered correct and proper. (Final Office Action, dated June 15, 2005, p. 15);
>
> (Applicant Argument 6): *Nowhere in Smotroff does it teach that the finger sensor monitors these parameters. And further, as stated previously, Dilts even admits that it is not clear as to what are the causes of electrodermal resistance change.*

The Examiner responded:

> Aside from what is taught by the Smotroff reference in particular, it is now quite well known today that finger sensors can and have measured heart rate, temperature and blood pressure at the very least. (Final Office Action, dated June 15, 2005, p. 15);
>
> (Applicant's Argument 7): *Thus, the Examiner's assertion that the MindDrive software "recognizes the distinctive signals produced by different mental activity and that the computer stores "stimuli patterns" (where is that even mentioned in Smotroff?) and that "the control functions are enacted based on the previously observed stimulus" are not taught anywhere in Smotroff.*

The Examiner responded:

> Once again, the Examiner turns to the Junker reference that plainly states that a memory store is used to store digital brain-body signals. (Final Office Action dated June 15, 2005, p. 15).

The intent of Applicant's arguments with regard to Dilts is to demonstrate that the MindDrive computer game, and by definition, Smotroff, does not teach or suggest the identification means asserted by the Examiner. The Examiner's parsing of Applicant's argument into Arguments 3, 5, 6 and 7 and then responding to each does not, in any way, rebut Applicant's argument that Dilts, and by definition Smotroff, does not teach any identification means, nor any function selection means either. Thus, for all of these reasons, Claims 1, 4, 9, 12, 15, 17, 21, 38, 40, 51, 55 and 67-70 remain patentable over the art of record and Applicant again respectfully requests that the §103(a) rejection be withdrawn.

II. THE EXAMINER ERRED IN CONCLUDING THAT CLAIM 2 IS UNPATENTABLE UNDER 35 U.S.C. §103(a) OVER JUNKER IN VIEW OF SMOTROFF AND FURTHER IN VIEW OF KUC

The Examiner finally rejected Claim 2 as being unpatentable under 35 U.S.C. §103(a) over Junker in view of Smotroff and further in view of Kuc. In particular, the Examiner states that:

> For claim 2, the combination of references includes the claimed subject matter as noted in the rejection of claim 1 above. However, neither reference is there biomagnetic stimuli input means.
>
> The biomedical magnetism imaging apparatus and method taught by Kuc et al performs biomagnetic imaging to determine the location and intensity of current sources within a subject by sensing the magnetic field within the subject. This is accomplished using a number of Superconducting Quantum Interference Devices (SQUIDs) that are fed magnetic field information using pickup coils (No. 4). One great advantage of this invention is the fact that fewer pickup coils and SQUID magnetometers are needed to gather needed information in a lesser amount of time than previous biomagnetometers. Also, input from multiple dipoles can be displayed simultaneously.
>
> As the system of Junker utilizes bio-imaging means to achieve its purposes, it presents the perfect platform onto which an imaging system such as Kuc may be applied. As EEG and EMG signals are already gathered, the MSI data could easily be examined for the same purposes. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate and MSI system similar to Kuc into the brain-body actuated system of Junker for the purpose of gathering vital information using fewer pickup coils in a lesser amount of time. (Final Office Action dated June 15, 2005, pp. 8-9).

However, since Claim 2 is dependent upon Claim 1, Claim 2 is patentable for the same reasons. In addition, as stated in previous responses by Applicant, Junker is directed to the recognition that an aggregate signal of EEG and EMG biopotentials which is necessary for proper feedback and which is limited to interpreting frequency spectra detected on the body. Junker, nor Junker in combination with Smotroff, do *not teach or even suggest implementing*

localization, i.e., determining coordinates of stimuli generated by the thoughts of the user, as is accomplished by the stimuli input means of the present invention which can be achieved using magnetic source imaging, such as that suggested by Kuc. Thus, there is no incentive to even combine Junker and Smotroff with Kuc[21]. Furthermore, other than citing Junker with Smotroff, the Examiner **adds nothing further** to his arguments to suggest combining Junker/Smotroff with Kuc that was discussed in the last Appeal Brief (dated February 2, 2001) and where the Board concluded that the Examiner had not established a prima facie case of obviousness on this rejection:

> ...We agree with appellant that the examiner has not established a convincing line of reasoning why it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the diagnostic imaging of Kuc (or imaging of Adachi) with the biofeedback control system of Junker. Nor has the examiner established how the teachings of Kuc (or Adachi) overcome the deficiencies in Junker. Therefore, we find that the examiner has not established a ***prima facie*** case of obviousness, and we will not sustain the rejection of claims 2, 44 and 45. (Decision on Appeal dated March 31, 1994, p. 6)

Therefore, for all of the above reasons, Applicant respectfully submits that Claim 2 is patentable over the art of record and respectfully requests that the §103(a) rejection be withdrawn.

III. THE EXAMINER ERRED IN CONCLUDING THAT CLAIM 18 IS UNPATENTABLE UNDER 35 U.S.C. §103(a) OVER JUNKER IN VIEW OF SMOTROFF AND FURTHER IN VIEW OF HARTZELL

The Examiner finally rejected Claim 18 as being unpatentable under 35 U.S.C. §103(a) over Junker in view of Smotroff and further in view of Hartzell. In particular, the Examiner states that:

> For claim 18, the combination of references above includes the claimed subject matter as discussed in the rejection of claim 1 above. However, one of the features that

[21]The mere fact that the references cited may be modified or even combinable does not allow the PTO to meet its burden absent a suggestion in the cited art of the desirability of the modification or combination. Moreover, the PTO may not "use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious." In re Fritch, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992).

> neither reference teaches is that the apparatus can be used by a plurality of users. Also a database for storing unique stimuli for respective users is also not included.
>
> The brainwave-responsive apparatus taught by **Hartzell** teaches an apparatus that is for use with one or more subject simultaneously for causing an output device to perform productive functions. The system consists of one or more EEG detectors (Nos. 10a-n) each having input lines (No. 12) from a plurality of user. The EEG detectors are designed to generate output signals corresponding to different brain waves to provide signals or actually controlling an output device (No. 30). The EEG devices also store unique stimuli depending on the user's brainwaves onto conventional strip chart recorders or magnetic tape. One advantage of this system is the fact that a productive function is performed using empathy training whereby two or more subjects may be trained to produce theta waves, either simultaneously or synchronously. Also elderly subjects can be trained to provide beta brainwaves on command.
>
> Since both Junker and Hartzell et al both pertain to brainwave controlled apparatus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to arrange the system of Junker to be used by a plurality of users and for storing user unique stimuli for the purpose of accomplishing and recording productive tasks through the use of simultaneous or synchronous activation through multiple users. Also, the benefits to the elderly and children should not be overlooked. (Final Office Action dated June 15, 2005, pp. 9-10).

However, since Claim 18 is dependent upon Claim 1, Claim 18 is patentable for the same reasons. In addition, the Examiner fails to address the further limitation of Claim 18 that states that the user unique stimuli are usable by the computer *for security or identification of users*. Nowhere does Hartzell, nor the combination of Junker/Smotroff and Hartzell, teach or suggest having a computer use these user unique stimuli for security or identification of users as specified in the '625 application on page 39, lines 5-17. Furthermore, other than citing Junker with Smotroff, the Examiner **adds nothing further** to his arguments to suggest combining Junker/Smotroff with Hartzell that was discussed in the last Appeal Brief (dated February 2, 2001) and where the Board concluded that the Examiner had not established a prima facie case of obviousness on this rejection:

> ...We agree with appellant that the examiner has not established where Hartzell remedies the deficiency in Junker noted above. (See brief at pages 25-26). We agree with appellant that the examiner has not established where Hartzell teaches or fairly suggests why it would have been obvious to one of ordinary skill in the art at the time of the

> invention to use the computer for security or identification purposes. Nor has the examiner established how the teachings of Hartzell overcome the deficiencies in Junker. Therefore, we find that the examiner has not established a ***prima facie*** case of obviousness, and we will not sustain the rejection of claim 18. (Decision of Appeal, dated March 31, 2004, p. 7)

Therefore, for all of the above reasons, Applicant respectfully submits that Claim 18 is patentable over the art of record and respectfully requests that the §103(a) rejection be withdrawn.

IV. THE EXAMINER ERRED IN CONCLUDING THAT CLAIMS 44-45 ARE UNPATENTABLE UNDER 35 U.S.C. §103(a) OVER JUNKER IN VIEW OF SMOTROFF AND FURTHER IN VIEW OF ADACHI

The Examiner has rejected Claims 44-45 under 35 U.S.C. §103(a) as being unpatentable over Junker in view of Smotroff as applied to Claim 1 above and further in view Adachi.

> For claim 44, the combination of references above includes the claimed subject matter as noted in the rejection of claim 1 above. However, the reference does not cite localization means for identifying locations in the source of said stimulus.
>
> The device for measuring a retina reflected light amount and a gaze detecting apparatus using the same taught by Adachi includes a series of measuring devices (Nos. 11-14) are fixedly arranged at four corner positions of a monitor device. Each device includes a laser (No. 111), semitransparent mirror (No. 113), and charge couple device (CCD) (No. 114) that receives infrared rays emitted by the laser and reflected by the face of the person. An intersection point P among all four devices indicates the location and orientation of the pupil of the person. The retina characteristics are continually monitored to calculate the differing pupil position and displacement angles. The claimed localization means is met by the display device (No. 4) of Adachi that identifies on the display the location in the user of the source of the stimulus. One obvious application of this technology is the control of a cursor on a computer monitor in lieu of the up- and down- keys of a keyboard. This particular reference combines a high level of accuracy at a decreased cost from other retina position detectors.
>
> Since all three references pertain to biologically inputted devices, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a means for detecting movement of the user's eye to initiate a control signal for the purpose of using the eye as an easy and inexpensive way to manipulate the cursor controller around the monitor output.
>
> For claim 45, the aforementioned measurement devices also meet the adapting means for they adapt the display to change in response to a change in the location (eye movement) of the source.

However, Applicant submits that Claims 44-45 ultimately depend from Claim 1 and are patentable for the same reasons. Furthermore, other than citing Junker with Smotroff, the Examiner **adds nothing further** to his arguments to suggest combining Junker/Smotroff with Adachi that was discussed in the last Appeal Brief (dated February 2, 2001) and where the Board concluded that the Examiner had not established a prima facie case of obviousness on this rejection:

> ...We agree with appellant that the examiner has not established a convincing line of reasoning why it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the diagnostic imaging of Kuc (or **imaging of Adachi**) with the biofeedback control system of Junker. Nor has the examiner established how the teachings of Kuc (or **Adachi)** overcome the deficiencies in Junker. Therefore, we find that the examiner has not established a ***prima facie*** case of obviousness, and we will not sustain the rejection of claims 2, 44 and 45. (Emphasis added, Decision on Appeal dated March 31, 1994, p. 6).

Therefore, for all of the above reasons, Applicant respectfully submits that Claims 44 and 45 are patentable over the art of record and respectfully requests that the §103(a) rejection be withdrawn.

CONCLUSION

In view of the above remarks, Applicant submits that the rejection of Claims 1-2, 4, 9, 12, 15, 17-18, 21, 38, 40, 44-45, 51, 55 and 67-70 is improper and should be reversed and such action is respectfully requested.

Respectfully submitted,

CAESAR, RIVISE, BERNSTEIN,
COHEN & POKOTILOW, LTD.

November 15, 2005

By _____
Scott M. Slomowitz
Registration No. 39,032
Customer No. 03000
(215) 567-2010
Attorneys for Applicant

Please charge or credit our Account No. 03-0075 as necessary to effect entry and/or ensure consideration of this submission.

CLAIMS APPENDIX

1. An apparatus for controlling a computer operation based on one or more stimuli sensed from at least one user thought, said apparatus comprising:

(a) stimuli input means coupled to the user for detecting at least one stimulus being caused by the at least one thought of the user;

(b) a computer having an operating system, coupled to said stimuli input means, for processing said at least one stimulus to produce a function control signal to control the operation of said computer wherein said computer does not require an articulated response from the user, said computer comprising:

(1) function selection means for receiving said at least one stimulus and wherein said function selection means comprises a memory including a correspondence between a plurality of previously-stored user stimuli and a plurality of desired function control signals;

(2) identification means, coupled to said function selection means, for comparing said at least one stimulus to said correspondence to identify a function control signal corresponding to said at least one stimulus, said function control signal being transmitted to the operating system of said computer.

2. The apparatus of Claim 1 wherein said stimuli input means comprises magnetic source imaging means.

4. The apparatus of Claim 1 further comprising auxiliary stimuli input means, coupled to

said computer, for providing additional or alternative stimuli inputs from the user using equipments capable of measuring such emissions.

9. The apparatus of Claim 1 further comprising communicating means, coupled to said computer, for communicating information pertaining to the user's thoughts.

12. The apparatus of Claim 1 wherein said computer further comprises designating means coupled to said function selection means, said designating means permitting the user to designate a particular representation to be associated with said at least one stimulus.

15. The apparatus of Claim 1 wherein said stimuli input means comprises conditioning means for conditioning said at least one stimulus for use by said computer.

17. The apparatus of Claim 1 wherein said computer further comprises a database for storing inaccuracies regarding said correspondence between said plurality of previously-stored user stimuli and said plurality of desired function control signals.

18. The apparatus of Claim 1 wherein said computer further comprises respective data bases for storing user unique stimuli from respective users, said user unique stimuli being usable by said computer for security or identification of users.

21. The apparatus of Claim 1 wherein said computer further comprises stimuli selection means for selecting stimuli from the user based upon acceptance criteria to form said previously-stored user stimuli.

38. The apparatus of Claim 1 further comprising means for detecting coactive stimuli for increasing the dependability of said function selection means.

40. The apparatus of Claim 1 further comprising means for detecting sequential stimuli for increasing the dependability of said function selection means.

44. The apparatus of Claim 1 further comprising localization means for identifying locations in the user of the source of said at least one stimulus.

45. The apparatus of Claim 44 further comprising adapting means for adapting said apparatus to a change of location of the source of said at least one stimulus whenever the user moves.

51. The apparatus of Claim 1 further comprising bodily communication means, said bodily communication means being adapted to be coupled to the user, or within the user, to provide for a communication path for said at least one stimulus between the user's brain and a user body part to be controlled.

55. Apparatus for controlling computer operation from one or more stimuli sensed from one or more thoughts in a user's body, said apparatus comprising:

(a) detecting means for detecting said one or more stimuli sensed from said one or more thoughts to produce one or more detected stimuli,

(b) selecting means for receiving one or more of said detected stimuli to perform a function and selecting a correspondence to one or more user thoughts to produce a selected function and wherein said selecting means does not require an articulated response from the user,

(c) identification means for identifying one or more said detected stimuli as corresponding to said selected function for producing a function control signal,

(d) receiving means for receiving said function control signal for said controlling said computer operation.

67. An apparatus for controlling a computer operation based on one or more stimuli sensed from at least one user thought pattern, said apparatus comprising:

(a) stimuli input means coupled to the user for detecting at least one stimulus being caused by the at least one thought pattern of the user;

(b) a computer having an operating system, coupled to said stimuli input means, for processing said at least one stimulus to produce a function control signal to control the operation of said computer wherein said computer does not require an articulated response from the user, said computer comprising:

(1) function selection means for receiving said at least one stimulus and wherein said function selection means comprises a memory including a correspondence between a plurality of previously-stored user stimuli and a plurality of desired function control signals;

(2) identification means, coupled to said function selection means, for comparing said at least one stimulus to said correspondence to identify a function control signal corresponding to said at least one stimulus, said function control signal being transmitted to the operating system of said computer.

68. Apparatus for controlling computer operation from one or more stimuli sensed from one or more thought patterns in a user's body, said apparatus comprising:

(a) detecting means for detecting said one or more stimuli sensed from said one or more thought patterns to produce one or more detected stimuli,

(b) selecting means for receiving one or more of said detected stimuli to perform a function and selecting a correspondence to one or more user thought patterns to produce a

selected function and wherein said selecting means does not require an articulated response from the user,

(c) identification means for identifying one or more said detected stimuli as corresponding to said selected function for producing a function control signal,

(d) receiving means for receiving said function control signal for said controlling said computer operation.

69. An apparatus for controlling a computer operation based on one or more stimuli sensed from at least one user thought category, said apparatus comprising:

(a) stimuli input means coupled to the user for detecting at least one stimulus being caused by the at least one thought category of the user;

(b) a computer having an operating system, coupled to said stimuli input means, for processing said at least one stimulus to produce a function control signal to control the operation of said computer wherein said computer does not require an articulated response from the user, said computer comprising:

(1) function selection means for receiving said at least one stimulus and wherein said function selection means comprises a memory including a correspondence between a plurality of previously-stored user stimuli and a plurality of desired function control signals;

(2) identification means, coupled to said function selection means, for comparing said at least one stimulus to said correspondence to identify a function control signal corresponding to said at least one

stimulus, said function control signal being transmitted to the

operating system of said computer.

70. Apparatus for controlling computer operation from one or more stimuli sensed from one or more thought categories in a user's body, said apparatus comprising:

(a) detecting means for detecting said one or more stimuli sensed from said one or more thought categories to produce one or more detected stimuli,

(b) selecting means for receiving one or more of said detected stimuli to perform a function and selecting a correspondence to one or more user thought categories to produce a selected function and wherein said selecting means does not require an articulated response from the user,

(c) identification means for identifying one or more said detected stimuli as corresponding to said selected function for producing a function control signal,

(d) receiving means for receiving said function control signal for said controlling said computer operation.

03079189 (THIS IS THE FULLTEXT)
Mind over movies
Booth, Stephen A
Popular Science (GPOS), v249 n6, p26, p.01
Dec 1996
TEXT:

ARMCHAIR FILM critics soon may be able to pLay actor and director in a new kind of movie. Miramax FiLms, a Disney vassal, says it wiLL begin "Net-casting" mini-movies via the World Wide Web, where viewers may control the action and the outcome by thought.

No joystick or mouse need appLy: This interactive cinema, sLated to debut next year, expLoits a recently reLeased input device called MindDrive ($140) to determine twists and turns of a multibranched pLot. MindDrive is a PC accessory that transLates mentaL activity into computer commands. In the seven-minute mini-films Miramax wiLL post on its Web site, a viewers mental reaction to run right or Left from danger, for instance, works like a cinematic polygraph to advance the story Line.

According to **MindDrive** 's maker, San Rafael, California-based The Other 90%, cerebral processes involving direction and emotional responses emit distinct bioeLectricaL signals. This output is measurabLe through the body's largest organ-the skin. **MindDrive** monitors these signals with a **sensor** strapped to a **fingertip** . The signaLs are then transmitted to a processor moduLe that translates these impulses into computer commands.

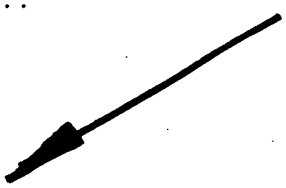
MindDrive requires special software; right now, onLy about 10 programs, listing for between $25 and $40, make use of the technology. These tend to be sports simulations and exercises in mentaL gymnastics. UltimateLy, the company hopes to deveLop more serious and useful applications that can be used by handicapped people, for example.-Stephen A. Booth.

TEXT:
... danger, for instance, works like a cinematic polygraph to advance the story Line.

According to **MindDrive** 's maker, San Rafael, California-based The Other 90%, cerebral processes involving direction and emotional...

...distinct bioeLectricaL signals. This output is measurabLe through the body's largest organ-the skin. **MindDrive** monitors these signals with a **sensor** strapped to a **fingertip** . The signaLs are then transmitted to a processor moduLe that translates these impulses into computer...

10/7,K/12 (Item 1 from file: 635)
DIALOG(R)File 635:Business Dateline(R)



0609502 95-65789
The Other 90% Technologies Inc. breaks through the thought barrier with MindDrive
Smotroff, Mark
Business Wire (San Francisco, CA, US) s1 p1
PUBL DATE: 950616
WORD COUNT: 567
DATELINE: Sausalito, CA, US

TEXT:

June 16, 1995--In a development that leapfrogs current computer capabilities, The Other 90% Technologies, Inc. has unveiled MindDrive, the first-ever technology that enables people to operate computers and other products with their thoughts.

Now, in a new category of products slated for the mass market, consumers will be able to control devices, run computer programs and even play video games using just the power of their minds.

"Thought response technology will eventually enable people to use only their minds to accomplish what they want or need," said Ron Gordon, founder of The Other 90% Technologies, Inc. and inventor of the MindDrive. "With the MindDrive, you don't need a keyboard, a joystick or a mouse to work with a computer, all you need are your thoughts."

How the MindDrive Works

The **MindDrive** uses a sensor sleeve that simply fits onto your finger. A small control console receives signals from your thoughts, which are transmitted from your mind to the **finger sensor** . Then, the **MindDrive** interprets these various thought signals and directly moves the desired object or image on screen.

For years, it has been possible to measure the output and strength of these signals. The MindDrive, however, goes far beyond these basic measurements, by recognizing and reading the complex matrix of signals produced by our thoughts with a sophistication and precision that until now has been impossible.

Proprietary Artificial Intelligence software, developed by The Other 90% and built into the small MindDrive unit, interprets these signals and translates them into commands understood by the standard PC -- which directly moves the desired object or image on a video screen.

Consumer Uses for the MindDrive

The MindDrive is the first step toward establishing a wide range of thought-response consumer products for all ages. The MindDrive, along with a series of compelling, easy-to-use consumer-oriented applications, will be available in early 1996. It will have a retail price between $100 and $200, depending on how many software programs are included with the MindDrive. Software applications will be divided into three categories:

o An Entertainment Series -- thought controlled video games, toys and games.

o An Education Series -- training memory concentration and creativity skills.

o A Peak Performance Series -- programs to enhance work, school and sports performance.

Fourteen initial application programs are projected to be introduced with the MindDrive and will include: a downhill ski game where the player just thinks the turns and movement down the slope; an educational program that helps students learn new lessons and enhance their memory skills at the same time; and an art mind program which enables users to draw and color on the screen with their thoughts. The Other 90% is currently developing MindDrive applications with a world-wide team of 40 people, including a Ph.D. level programming group located in Siberia, Russia.

About The Other 90% Technologies, Inc.

The MindDrive was conceived by Ron Gordon in the mid-1970s, when he was heading Atari, Inc. Gordon is widely acknowledged for his ability to transform advanced, expensive technologies into inexpensive, easy-to-use consumer products, such as the pocket language translator and the first hand-held computer. Following several high-tech business successes, Gordon returned to his vision of a thought-controlled interface in 1988 and founded The Other 90%, based in Sausalito, Calif. The Other 90% Technologies, Inc., is a privately-held firm dedicated to delivering the ability to use just the mind to accomplish whatever people want or need.

TEXT:
...work with a computer, all you need are your thoughts."

How the MindDrive Works

The **MindDrive** uses a sensor sleeve that simply fits onto your finger. A small control console receives signals from your thoughts, which are transmitted from your mind to the **finger sensor** . Then, the **MindDrive** interprets these various thought signals and directly moves the desired object or image on screen...

10/7,K/13 (Item 1 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)

02786150 Supplier Number: 45653051 (THIS IS THE FULLTEXT)
SOMETHING TO THINK ABOUT: A NEW SENSOR THAT READS THE MIND
Sensor Business News, v2, n14, pN/A
July 5, 1995
TEXT:
Think for a minute about this: A sensor can read your mind. A company called (and this is true) The Other 90% Technologies Inc. unveiled MindDrive, a product which the company claims ranks as the first-ever technology that enables people to operate computers and other products with their thoughts.

The **MindDrive** uses a sensor sleeve that fits onto human fingers. A small control console receives signals from human thoughts, which are transmitted from the human mind to the **finger sensor** . Then the **MindDrive** interprets these various thought signals and directly moves the desired object or image on screen.

"With the MindDrive, you don't need a keyboard, a joystick or a mouse to work with a computer. All you need are your thoughts," said Ron Gordon, the company founder and CEO and MindDrive inventor.

Gordon is one of those guys with vision and passion for this new type of mind experimentation. "I couldn't get the possibility of controlling things directly--with my mind--out of my mind," he said.

Gordon told us his company, which makes the sensor components for the MindDrive, expects to haul in $60 million in revenues in 1996 and about $200 million in 1997. Those revenues will be derived from the applications and software to be embedded within the MindDrive product.

So what about the name of the company? Gordon was ready with a response. "Einstein said we only use 10 percent of our brains. This is learning to use the other 90 percent." (Ron Gordon, 415/332-0433; Mark Smotroff, 415/904 -7070.)

Paper No. 31

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte EDWARD W. MOLL

Appeal No. 2002-1635
Application No. 08/835,625

HEARD: March 16, 2004

Before BARRETT, DIXON, and GROSS, **Administrative Patent Judges**.

DIXON, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1, 2, 4, 9, 12, 15, 17, 18, 21, 38, 40, 44, 45, 51, 55, and 67-70.

We REVERSE.,

Appellant's invention relates to a system for controlling a computer operation based on stimuli sensed corresponding to a user thought. An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below.

> 1. An apparatus for controlling a computer operation based on one or more stimuli sensed from at least one user thought, said apparatus comprising:
>
> (a) stimuli input means coupled to the user for detecting at least one stimulus being caused by the at least one thought of the user;
>
> (b) a computer having an operating system, coupled to said stimuli input means, for processing said at least one stimulus to produce a function control signal to control the operation of said computer wherein said computer does not require an articulated response from the user, said computer comprising:
>
> (1) function selection means for receiving said at least one stimulus and wherein said function selection means comprises a memory including a correspondence between a plurality of previously-stored user stimuli and a plurality of desired function control signals;
>
> (2) identification means, coupled to said function selection means, for comparing said at least one stimulus to said correspondence to identify a function control signal corresponding to said at least one stimulus, said function control signal being transmitted to the operating system of said computer.

The prior art of record relied upon by the examiner in rejecting the appealed claims is as follows:

Hartzell et al. (Hartzell)	4,949,726	Aug. 21, 1990
Adachi	5,325,133	Jun. 28, 1994
Junker	5,474,082	Dec. 12, 1995
Kuc et al. (Kuc)	5,594,849	Jan. 14, 1997

Claims 1, 55, and 67-70 stand rejected under 35 U.S.C. § 112, first paragraph as failing to provide an enabling disclosure. Claims 1, 4, 9, 12, 15, 17, 21, 38, 40, 51, 55, and 67-70 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Junker. Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Junker in view of Kuc. Claim 18 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Junker in view of Hartzell. Claims 44 and 45 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Junker in view of Adachi.

Rather than reiterate the conflicting viewpoints advanced by the examiner and appellant regarding the above-noted rejections, we make reference to the examiner's final rejection (Paper No. 21, mailed Aug. 28, 2000), the examiner's answer (Paper No. 25, mailed Apr. 23, 2001) and the supplemental examiner's answer (Paper No. 27, mailed Oct. 1, 2002) for the examiner's reasoning in support of the rejections, and to appellant's brief (Paper No. 24, filed Feb. 7, 2001) for appellant's arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by appellant and the examiner. As a consequence of our review, we make the determinations which follow.

35 U.S.C. § 112, FIRST PARAGRAPH

Appellant argues that the declaration by the inventor Edward Moll, filed Oct. 12, 1999, evidences that detection of a particular stimulus corresponding to a particular thought was known in the art. (See brief at page 13.) In the prosecution history, we find that the examiner has only provided a brief comment at the beginning of the non-final rejection mailed Jan. 6, 2000, which states that the declaration was considered, however it did not obviate the rejection under 35 U.S.C. § 112, first paragraph. Subsequently, in the final rejection, the examiner maintained that essentially, the examiner does not dispute enablement, but that the appellant's use of the claim terminology which the examiner equates to "sensing a user's thoughts" is a "gross misnomer . . . ." (See answer at page 2.) As pointed out by our reviewing court, we must first determine the scope of the claim. "[T]he name of the game is the claim." **In re Hiniker Co.**, 150 F.3d 1362,1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998). Therefore, we look to the language of independent claim 1. The language of

independent claim 1 recites "controlling a computer operation based on one or more stimuli sensed from at least one user thought" and "stimuli input means coupled to the user for detecting at least one stimulus being caused by the at least one thought of the user." While we agree with the examiner that at first blush the claims appear to claim sensing a user's thoughts, it is clear that the system is sensing some stimuli from the thoughts and that the sensed stimuli are used to control the computer based on some stored correspondence. The examiner does not appear to dispute that this was enabled. Here, we do not find that the examiner has established a ***prima facie*** case of a lack of enablement of the invention as claimed, nor do we find that the examiner has adequately addressed the content of the evidence submitted in the form of a declaration by Edward Moll. Therefore, we will not sustain the rejection of claims 1, 55, and 67-70 under 35 U.S.C. § 112, first paragraph.

35 U.S.C. § 102

Appellant argues that Junker uses biofeedback and that Junker does not teach the "detecting the [particular] thoughts of the user" as in the present invention. (See brief at page 17.) Here, we find that Junker does use the sensing of brain activity to control a computer, but that it does not sense/detect the stimuli and compare the sensed or detected stimuli to stored stimuli to identify a corresponding control function for a computer. Appellant argues at page 17 et seq. of the brief that the function selection means and the identification means are not taught or suggested by Junker.

We agree with appellant, and do not find that the examiner has shown where or how Junker teaches these claim limitations. Therefore, we do not find that the examiner has established the initial ***prima facie*** case of anticipation, and we will not sustain the rejection of independent claims 1, 55, and 67-70 and dependent claims 4, 9, 12, 15, 17, 21, 38, 40, and 51.

35 U.S.C. § 103

With respect to dependent claims 2 (and 44 and 45)[1], appellant argues that Junker does not teach or suggest the localization of stimuli and that there is no incentive to combine Junker and Kuc (or Adachi). (See brief at pages 24-25.) We agree with appellant that the examiner has not established a convincing line of reasoning why it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the diagnostic imaging of Kuc (or imaging of Adachi) with the biofeedback control system of Junker. Nor has the examiner established how the teachings of Kuc (or Adachi) overcome the deficiencies in Junker. Therefore, we find that the examiner has not established a ***prima facie*** case of obviousness, and we will not sustain the rejection of claims 2, 44 and 45.

---

[1] While appellant has not specifically argued or combined claims 44 and 45 with claim 2, we will include these claims with claim 2 since appellant argues the lack of a teaching of localization with respect to the input device of Kuc and we imply this to also extend to the teachings of Adachi.

With respect to dependent claim 18, appellant argues that Junker does not teach or suggest the use of the computer for security or identification purposes and that Hartzell does not remedy the deficiency in Junker noted above. (See brief at pages 25-26.) We agree with appellant that the examiner has not established where Hartzell remedies the deficiency in Junker noted above. (See brief at pages 25-26.) We agree with appellant that the examiner has not established where Hartzell teaches or fairly suggests why it would have been obvious to one of ordinary skill in the art at the time of the invention to use the computer for security or identification purposes. Nor has the examiner established how the teachings of Hartzell overcome the deficiencies in Junker. Therefore, we find that the examiner has not established a ***prima facie*** case of obviousness, and we will not sustain the rejection of claim 18.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1, 55, and 67-70 under 35 U.S.C. § 112, first paragraph is reversed; the decision of the examiner to reject claims 1, 4, 9, 12, 15, 17, 21, 38, 40, 51, 55, and 67-70 under 35 U.S.C. § 102 is reversed; and the decision of the examiner to reject claims 2, 18, 44, and 45 under 35 U.S.C. § 103 is reversed.

REVERSED

LEE E. BARRETT
Administrative Patent Judge

JOSEPH L. DIXON
Administrative Patent Judge

ANITA PELLMAN GROSS
Administrative Patent Judge

) BOARD OF PATENT
) APPEALS
) AND
) INTERFERENCES

JD/RWK

Appeal No. 2002-1635
Application No. 08/835,625

CAESAR RIVISE BERNSTEIN
COHEN & POKOTILOW
SEVEN PENN CENTER 12TH FLOOR
1635 MARKET STREET
PHILADELPHIA, PA 19103-2212